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Future land use basis for  
horizon year plans



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Publications



FUTURE LAND USE  
BASIS FOR HORIZON YEAR PLANS

prepared for

THE CORPORATION OF THE  
CITY OF ST. CATHARINES

by

PROCTOR, REDFERN, BOUSFIELD & BACON  
CONSULTING ENGINEERS AND TOWN PLANNERS

75 Eglinton Ave. East  
Toronto 12, Ontario

In Association with

ALAN M. VOORHEES & ASSOCIATES INC.

Washington, D.C.

September, 1964.

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## INTRODUCTION

In our first report on population and employment forecasts we selected for the horizon year of the transportation study a population of 270,000 people to be living in the St. Catharines Area of whom some 88,000 will be employed; 18,000 in retail trade, 35,000 in service and 35,000 in industry. In determining where these people will live and work, it is first necessary to determine the total amount of land required, and then, the location of that land for the various purposes of industry, residential neighbourhoods, open space, commercial and service activities etc.

Factors that are shaping this future city of over a quarter of a million people and which will influence the distribution of population and the use of land have been the subject of two further reports, one on the employment and population changes over the last decade and the other on the Community Attitude Survey conducted to identify the people's reaction to their urban environment.

Phase III of the St. Catharines Area Transportation Study Appraisal calls for the development and testing of three alternative land use plans for the Horizon Year. From our studies we have identified those factors that we feel to be most important in shaping the growing city and these are collected together here in a summary as the basis for these Horizon Year Plans. The Initial Plan, that which we feel to be most likely, is detailed first and two alternative plans, to be considered as possibilities, follow.

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The major implications of each alternative are examined and summarized to facilitate the selection of the plan to be used in completing the Transportation Study.

#### SUMMARY.

The results of our studies on population growth and future population density indicate that urban expansion will occur beyond the present boundaries of the city within the time period covered by the Transportation Study. While substantial pressures for urbanization outside of the boundaries do not yet appear imminent, they appear likely before 1985 and may well occur before 1980. It is therefore necessary for us to consider the implications of this growth and the possibilities of where it may occur since the formulation of a road network is profoundly affected by the direction that expansion may take.

Although obvious, it bears repeating, that decisions made now about roads and other public works that will still be in existence in 1985 will have a determining effect on the development taking place at that time. In order that this development may be well planned, the factors underlying these decisions must be examined in this study.

While transportation is the major object of the study we have found that the following items are also of basic concern to the future land-use pattern of the area and will be major factors in the expansion of the city.





Sewers  
Growth of the Central Area  
Provision of Industrial Land

The provision of a municipal sewer system for urbanization beyond the present boundaries is critical. There are significant differences in the feasibility of providing systems in the differing directions that growth may take and the choice involved will exert a major control over expansion. The future growth of the Central Area will be affected by this expansion; its size and economic significance being related to the alternatives. While the future pattern of industrial development within the city is largely controlled by existing land-use the provision of additional land beyond involves the question of how the attractiveness of that land may be maximized through one or other of the alternatives.

An examination of these key factors reveals first that although growth beyond the present boundaries might take place in several directions at once there are compelling reasons why such growth should generally be restricted to only one direction. Furthermore, this direction should be determined now in view of the pressures that the city will shortly experience through major projects now being carried out; among them, Brock University; improvements to the Welland Canal, particularly the new tunnels; The Third Welland Canal Park and Race Track developments; major sewage disposal works, and the construction of Provincial Highway No. 406. Finally the major question for future expansion is in which direction should future growth take place. This question leads to the

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three future land-use plans outlined at the end of this report. They are based on the three directions of growth that appear to us to be reasonable alternatives and together with their salient implications they may be summarized as follows:

Initial Land Use Plan 'A'

- Major growth westerly into Louth Township
- Relative ease of servicing with sanitary sewers
- Greater expansion of the Central Business District
- Association with Highway 406 in the valley route
- Greater separation of residential and industrial development
- Offers a greater potential for industry east of Welland Canal.

Alternative Land Use Plan 'B'

- Major growth easterly into Niagara Township
- Relative difficulty of servicing with sanitary sewers
- Lesser expansion of the Central Business District
- Association with Highway 406 in the central route
- Possible conflicts between industrial and residential development east of Welland Canal
- Drainage problems





Alternative Land Use Plan 'C'

- Major growth south of Lake Gibson
- Major problem for sanitary sewers
- Intermediate expansion of the Central Business District
- Possible difficulties for water supply
- Generally lesser amenity of climate and topography

In assessing these plans, that which would yeild the greatest benefit to the city appears to us to be Initial Land Use Plan 'A'. Plan 'A' is believed the most desirable from the overall community standpoint and is therefore recommended for the detailed analysis of the transportation study.



EXISTING FRAMEWORK:

1.

The existing land-use pattern sets the framework upon which future plans must be based. Development in some form has occurred in most parts of the present city. From what has already taken place, the residential nature of much of the area north of the Queen Elizabeth Way and of the South and Southwest parts has been determined. Residential development on the west side of Thorold indicates that eventually this will continue as far as the bounds of Brock University. Further industrial expansion may be anticipated between the Queen Elizabeth Way and McKinnons Plant No. 1; between Highway No. 8 and the C.N.R.; in the vicinity of the Queen Elizabeth Way and the Welland Canal; and south of Thorold. While the extent of this development and the possibility of other future areas will have to be considered more closely, these nuclei are clear. The only substantial area where there is some choice of future land use is in West St. Catharines adjacent to Louth Township.

Existing and proposed zoning largely reflects the present pattern and is not significant as a guide for future land use in areas which may be expected to undergo changes. Water supply does not appear to be a limiting factor for urban expansion in the foreseeable future. Boundaries

- 
1. Existing land-use is summarized in the Report on Employment and Development Trends, Plate No. 2, Page 6.





1.

for the urban area are indicated by the sanitary sewer watersheds.

The Twelve Mile Creek watershed and Lake Gibson form boundaries on the west and south sides respectively. On the east, the Welland Canal forms a partial boundary, but some flexibility is indicated for an area north and south of the Queen Elizabeth Way where sewers may cross the canal. The extent of development in the Thorold south area will be determined by the sewer capacity available when this area is connected to the trunk system. Significant urban expansion beyond these general limits will require a major decision for providing a new trunk sewer system or systems. The provision of sanitary sewers is thus the determining factor for major urban expansion.

2. CHANGING LAND USE PATTERN:

A marked decrease in manufacturing employment in the central area indicates that all industry will have left by the end of the century. Relocation of most of this industry within the St. Catharines area as a whole is expected and during this relocation, increased amounts of industrial land will be required. Present high employment densities of up to a hundred persons per acre will give way to much lower densities

- 
1. Sewer areas are summarized in the Report on Employment and Development Trends, Plate No. 3, Page 26





as new plants replace the old. Relocation of plants in other areas is to be expected in similar fashion, whenever they are unable to continue expanding on their present site. From the relocation that has already taken place and from such new industries as have come to the area, the tendency has been to choose sites more towards the periphery of the urban area; sites which offer ample room for expansion. Over the last decade the major expansion of manufacturing employment has been on the east side of the canal, in McKinnon Industries and Port Weller Dry Dock, but no real trend has been identified for industrial growth in any special area except for a tendency for the areas adjacent to the canal to be preferred over those on the west side. From the preference expressed in the Community Attitude Study for housing close to places of work there is an evident desire for industrial areas to have convenient access to residential neighbourhoods.

A shift in the location of retail employment comprising a decrease in the central area and an increase in suburban localities has been a consequence of the growth of the city. The Community Attitude Study indicated that suburban shopping is preferred for convenience goods but that the central area is more important for major items and for shopping other than for convenience goods. The preference for major shopping facilities in suburban areas appears associated with the distance to the downtown area and the number and size of such shopping centres is influenced by their relative accessibility compared to downtown as well as by the

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attractiveness of the downtown area itself.

Service employment appears as the fastest growing category, expanding in all sections of the area but fastest in the downtown and central fringe. With increasing emphasis on services such as education, government, health and welfare, etc., this growth in service employment may be expected to continue and even accelerate. As a consequence, increased office development is to be expected, particularly in the downtown and central fringe but also to some extent in suburban localities, the new St. Lawrence Seaway Authority Office being an example. As is to be expected, service employment closely associated with retail, such as restaurants, hair dressers, shoe repairs and cleaners etc., shows growth in association with suburban shopping.

### 3. DENSITY, LAND REQUIREMENTS AND EMPLOYMENT DISTRIBUTION:

The development of any area seldom proceeds in a systematic fashion. Rather it occurs discontinuously, leaving vacant parcels that come to be developed later. In calculating future land requirements a vacancy ratio is used to take this into account. Since there is no way of telling how great a percentage of developing land will be vacant at any particular time, figures assigned to this are adopted arbitrarily; 25% for residential neighbourhoods, and 35% for industrial development where a greater choice is necessary for various types of industry. Since calculations





for future requirements can only be estimates, all figures used for this have been generalized. The object is to get some idea of the order of magnitude of requirements rather than to arrive at a set of precise figures.

(a) Residential Neighbourhood Uses:

With post-war residential development we have identified a trend to lower residential densities in the area, but this now appears to have stabilized at about 17 persons per gross acre<sup>1</sup>. A dominant preference for single family housing has been established and although we have also identified some demand for apartments, this would not appear great enough to indicate any reversal of the post-war trend in the foreseeable future. The demand for apartments appears mainly in areas closer to the central part of the city; that in suburban areas seems to be minor. Increases in density will certainly occur locally where apartments develop but apparently not on a scale to affect the overall figure. A desire for lower cost housing and for senior citizens housing that was found in the Community Attitude Survey would indicate increased densities where these might be provided. A desire for more parks, particularly neighbourhood parks and the expectation that with rising income increasing emphasis will be paid to appearance, design and location seems to

- 
1. Gross residential density; includes streets, lots, schools, churches, parks, local commercial and other neighbourhood uses.



reinforce our conclusion that the overall density would appear likely to remain as at present, at 17 persons per acre, and that any increases will only be local. Land required for neighbourhood residential uses is calculated as follows:

TABLE 1

HORIZON YEAR REQUIREMENTS FOR  
NEIGHBOURHOOD RESIDENTIAL LAND

Horizon Year Population	270,000 people
Present Population (round figures)	100,000 people
Population increase	170,000 people
Land required for increase at 17 persons per acre	10,000 acres
Vacancy ratio of 25%	2,500 acres
<u>Total Additional Land Required</u>	<u>12,500 acres</u>
Neighbourhood residential land presently available within the Port Dalhousie and Port Weller Sewer areas. 1.	
2	
Planning Districts 1 to 18	5,130 acres
Parts of Districts 19 & 20	1,370 acres
<u>Total</u>	<u>6,500 acres</u>

Additional land required beyond present sewer areas 6,000 acres.

In distributing future population, vacant residential areas within the City and Thorold are generally expected to develop at densities similar to those in adjacent built-up areas; higher densities being bound in the older parts of the area in planning districts adjacent to downtown and more average or slightly lower densities in suburban districts and beyond

- 
1. See report on Employment and Development Trends, Plate No. 3 Page 26
  2. See report on Employment and Development Trends, Plate No 1. Page 3





the city boundaries. Account has also been taken for the association of higher residential densities with major road intersections and commercial developments.

(b) Industrial Uses:

From the trends identified it is assumed that all existing industry will have left the central part of the city by the Horizon Year; also that there will be some decrease in industrial acreage through the elimination of non-conforming uses and through redevelopment in the older parts of the city. With the exception noted below, the areas presently zoned industrial<sup>1</sup> are generally taken as being so developed by the Horizon Year. Changes that will no doubt occur are not expected to be great enough to affect the overall picture. However, in the area along the old Welland Canal between Lake Street and the Martindale Pond, the existing pipe and concrete block factories are not considered permanent and the area may well change to other uses before the Horizon Year. New industrial areas will be required outside the present city as the capacity is exceeded within the present boundaries.

The post-war trend for industrial development has been one of a decreasing number of employees per acre. Recently established industries give an overall figure of 10. While there is a wide variation between individual

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1. Present zoning is summarized in the Report on Employment and



industries this figure is considered appropriate for future projections for the area. A further decline in employment density may occur with increasing automation in industry. However, in calculating industrial land required, a vacancy ratio has been chosen large enough to cover this eventuality. Land required for industrial uses is calculated as follows:

TABLE 2

HORIZON YEAR REQUIREMENTS FOR INDUSTRIAL LAND

Industrial employment at the Horizon Year	35,000 people
Land required at 10 employees per acre	3,500 acres
Land presently used for industrial purposes	1,350 acres
Remaining land required	2,150 acres
Land for the vacancy ratio of 35%	750 acres
<u>Total industrial land required</u>	<u>4,250 acres</u>
Area presently zoned for industry	
City of St. Catharines	3,220 acres
Thorold & Thorold Township	550 acres
<u>Total</u>	<u>3,770 acres</u>
Industrial land eliminated before Horizon Year	
Expansion of Central Business District	30 acres
Elimination of non-conforming uses and redevelopment, say	80 acres
Lake Street - Martindale Pond area	60 acres
<u>Total</u>	<u>170 acres</u>

Therefore, additional industrial land required by Horizon Year

650 acres

Future industrial employment is distributed according to future industrial areas with older established areas having a somewhat higher density of employees per acre and the newer ones somewhat lower than average.





In addition areas expected to develop with smaller manufacturing and service industries reflect somewhat higher densities while those for heavier industry such as the area east of the canal reflect lower densities.

(c) Retail and Service Employment:

The location of future retail and service employment can only be determined in a fairly general way. While the amount and location of some parts of the total, e.g. that in the Central Business District, can be estimated from past trends and basic assumptions, a good part will be scattered over the area in locations as yet impossible to define. Many new retail areas and institutional uses will develop on land presently vacant for which no prediction can be made; by way of example, who could have predicted Brock University in its precise location?

Since the traffic models require employment figures only and not acreages no attempt has been made to estimate future land requirements for these categories. A good part is accounted for in the calculations for a gross population density, the remainder, like shopping centres and those institutional uses requiring large tracts of land cannot be calculated by any formula. In any event, they are likely to form a relatively small part of the total.

In approaching the problem of distributing retail and service employment we have tried to separate that portion of the employment that can be





defined by association with predictable developments and have assigned this to the appropriate locations. That which cannot be predicted in any way is distributed pro rata through the planning districts and traffic zones according to the projected population in each. While this method may be debated it must be emphasized that what is sought in the Horizon Year Plans are not precise figures on future development but rather a general indication of the order of magnitude of possible developments, a fair degree of tolerance being acceptable.'

1.

Retail employment has been divided into that occurring in concentrated areas such as large shopping centres and the downtown business areas; and in dispersed areas, neighbourhood shopping etc.

Inasmuch as no shopping centres existed in 1951 trends in retail employment cannot be counted as very meaningful for straight mechanical projection.

However the following facts may be noted, Retail Employment in dispersed Neighbourhood shopping increased between 1951 and 1962 from 35% of the total to 47%, at the same time the proportion in the Central Business

2.

District decreased from 58% to 30% In the meantime several large shopping centres had made their appearance and in 1962 contained 19% of the total. These figures may be summarized as follows:-

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1. Report on Employment and Development Trends; Page 19

2. The remaining 7% of retail employment in 1951 and 4% in 1962 was located in the Thorold Business District.

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	C.B.D.	Shopping Centres	Neighbourhood Shopping
1951	58%	-	35%
1962	30%	19%	47%

While the Initial Land Use Plan envisages a considerably stronger Central Business District it would not appear likely in estimating future relationships that the proportion of retail employment here would equal what it was before any suburban shopping centre was developed. Nevertheless with such strength it would be considerably higher than that prevailing at present. An upper figure of 50% of the total has therefore been selected as being located in the C.B.D. On the other hand any further decrease in this proportion also appears unlikely with the future growth envisaged although its relative size may well remain the same; therefore a lower figure of 30% of the total has been selected. It is recognised that these figures are somewhat arbitrary. Under the plan envisaging the stronger C.B.D. the figure may well turn out lower than that selected. However these figures are not being used for design purposes and the object is to have some idea of the limits of development in the C.B.D. that may be reached after 1985. On this basis we feel that the range of 30% to 50% of total retail employment located in the C.B.D. is within tolerable limits for the study. Depending on the future function of the Central Business District, shopping centres may increase in relative importance or decrease. Corresponding to the range postulated for the C.B.D. a range for shopping centres of 10% to 30% of the total retail employment has been selected,





the present figure of 19% being in the middle of this range. The remaining 40% is then applied to dispersed neighbourhood shopping.

The proportion of service employment in the Central Business District increased between 1951 and 1962 from 45% to 59% and the older parts of the city generally experienced a greater increase than newer parts. In projecting the future distribution it is felt that because of the large increase involved in this category the proportion in the Central Business District is not likely to be greater than that at present and may well decline. A range for this of between 45% and 60% has been chosen in corresponding fashion to retail employment. In distributing the remainder a higher proportion is assigned to older parts of the area in recognition of the trends identified and account has been taken of major institutions such as schools, hospitals and Brock University, as well as major commercial areas, the Seaway and a proportion of service employment that will locate in Industrial areas.

#### 4. TRENDS IN THE DIRECTION OF URBAN GROWTH:

Recent population expansion and the registration of plans of subdivision indicate the prime areas for growth at present are north of the Queen Elizabeth Way, particularly in the northeast, and in the south part of the area. From the Community Attitude Survey, south St. Catharines has first preference followed by the northeast part of the area. A desire





is also evident for people to prefer to move away from the older parts of the area towards newer suburbs. Not much growth has occurred beyond the city but what there is has tended to be towards Lake Ontario and in the south adjacent to Thorold.

The decrease in employment between 1951 and 1962 in the Central Business District has been greater at its eastern end but on the northwest fringe there has been a significant increase. During this time the central area has changed from an elongated strip mainly along St. Paul Street to a more compact but wider area centred on both St. Paul and King Streets with a focus at James Street. As the Central Business District grows, additional land will be required to accommodate its expansion. While this requirement will vary with the different land use plans and in any event can only be very approximately estimated it may be observed that expansion south and southwest is precluded by the valley and to the southeast by the old established residential area along Yates Street. Further expansion north-west is likely and this may reach as far as Welland Avenue by the Horizon Year. More significant expansion may be anticipated northeastwards and connections with Highway 406 may be expected to stimulate a new trend to develop in the areas of Queenston and Geneva Streets. While there appears to be ample room south of Welland Avenue for expansion in general terms the retail core on St. Paul Street is to some extent limited for northward expansion by the complex of institutional and public buildings on the north side of King Street east from Queen St.



It should be borne in mind that if such limitation were to hinder the expansion of the commercial core some large commercial uses, particularly stores might be expected to seek other locations, possibly outside of the C.B.D. itself.

#### 5. FUTURE LAND USE ALTERNATIVES:

The results of the surveys and analysis that we have carried out have indicated that urban expansion will occur beyond the present boundaries of the city within the time period covered by the Transportation Study and well before the Horizon Year. Within these boundaries including the Town of Thorold and the part of Thorold Township north of Lake Gibson there is suitable vacant land to accommodate about 100,000 additional people at an average density of 17 persons per gross acre. With a present population a little short of 100,000 it may be said that the total capacity of this area is of the order of 200,000 people. From the population projection this figure would be reached somewhere about 1990, in around 25 years time. However since development does not proceed systematically pressure for extension beyond this area will occur well before then around 1980 or even earlier. A proposed subdivision in Louth Township adjacent to the city boundary may well represent the first example of this pressure.

From our studies we have concluded that the major factor in considering expansion beyond the boundaries outlined will be the provisions of new  
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sanitary sewer systems. Present proposals cover the existing city and the Thorold area and sufficient capacity is planned for the complete development of this area. Beyond that entirely new systems must be entertained.<sup>1</sup> Since it would obviously be unwise and very expensive to initiate more than one new system at a time, future growth should be confined to one direction only.

The alternative directions for growth are expected to have differing implications for the Central Business District. On the one hand a considerable expansion might result from the choice of one alternative while from another the expansion may be less. It must be emphasized that one particular alternative and its associated road system will not by themselves mean greater or lesser expansion in the central area but that they can provide a climate or setting in which various land use developments are likely and which may be realized if comprehensive planning policies are adopted.

Since our projections indicate that additional industrial land will be necessary the potential of the east side of the Welland Canal, north of the Queen Elizabeth Way, merits special consideration. This area has special attractions for industry, particularly heavy industry requiring considerable land and needing large quantities of water. Its attractiveness

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1. Report on Employment & Development Trends, Pages 27 & 28.



may be increased through the selection of one alternative rather than another. Briefly the discouragement of other developments from this area and the avoidance of residential subdivisions which might provide objections to smoke and smell will help to increase the potential of the area for industry.

While the location of Highway No. 406 between the foot of Geneva Street and the Queen Elizabeth is not necessarily tied to any one alternative it is suggested that there is an association that will yield maximum benefits for each alternative and therefore these have been included in the plans.

It may be asked here whether a combination of alternatives might be entertained; growth in more than one direction for instance. While such a possibility is not inconceivable, we believe that the physical fact of having to provide more than one new sewage disposal system is a major deterrent to substantial growth in more than one direction. Moreover when the pros and cons are weighed, the maximum benefits to the City would appear to accrue from the Initial Land Use Plan and any combination with the other plans would tend to reduce these benefits.

#### 6. INITIAL LAND USE PLAN 'A' (PLATE 1)

On the basis of our studies the plan believed most beneficial is that involving major growth to the west. With the completion of the Port Dalhousie Sewage Treatment Plant and the Ontario Street Trunk Sewer,

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West St. Catharines can be served by an extension from this system. Development will follow servicing up to the westerly limit of sewer extension. Since the area beyond this is attractive for further residential development, pressure for services will undoubtedly follow beyond the area that can be connected to the Ontario Street Trunk Sewer. A new trunk sewer appears feasible in the general area of Richardson's Creek which could be either pumped to an extended Port Dalhousie Plant or to a new plant on Lake Ontario.

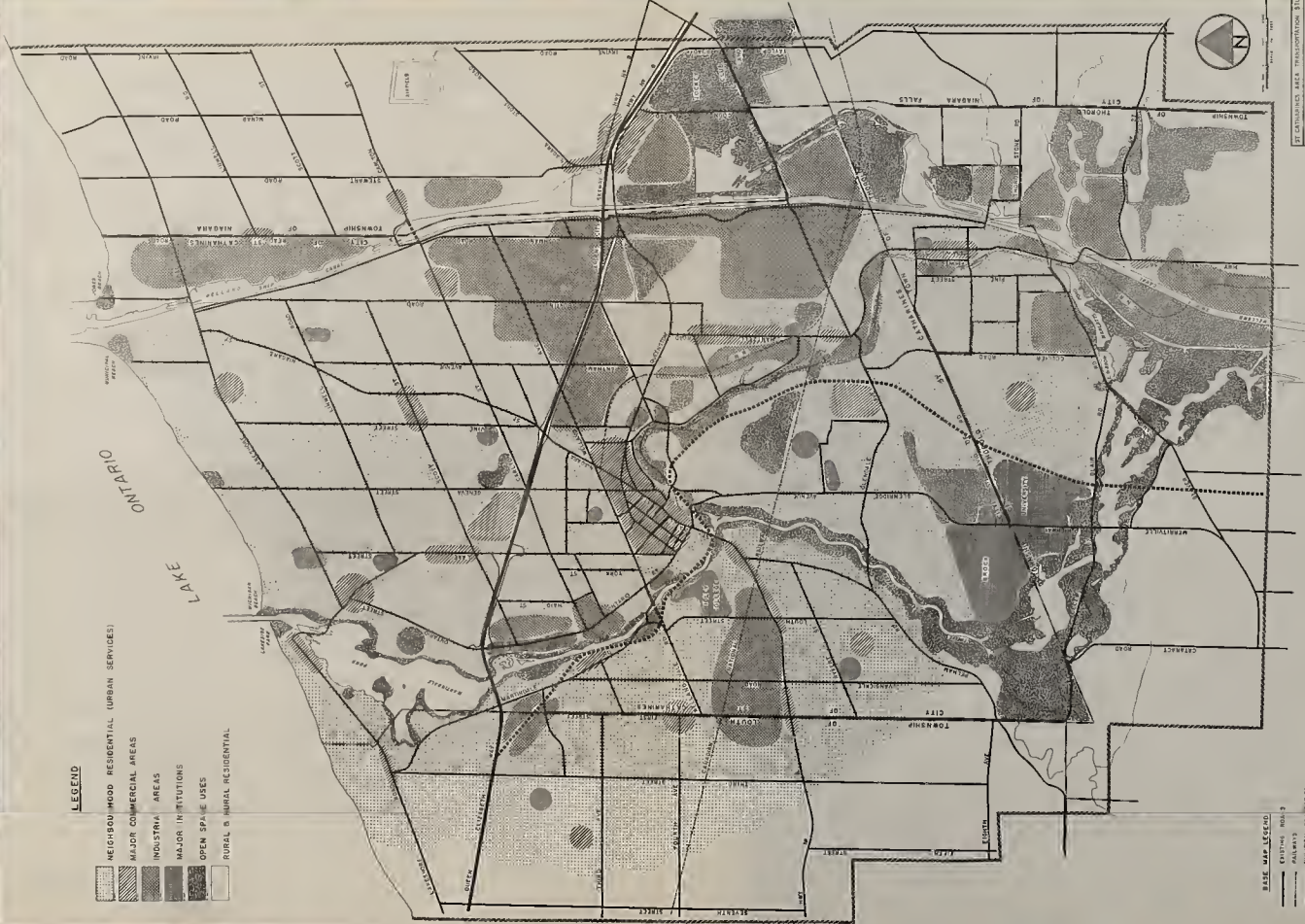
With the improved crossings of the Twelve Mile Creek that may be expected the westerly area would be brought closer to the downtown area. Geographically this area contains undeveloped land that is closest to downtown and the effect on the Central Business District is likely to be one of stimulation. Because of its proximity to the downtown it is felt that no major shopping centre is likely in this area in the foreseeable future. The possible location in this plan of Highway 406 along the valley route would further facilitate improved connections to downtown and the south and southeast parts of the area. Furthermore the industrial potential created by an expressway could be realized since it would be located through land that is presently vacant and which might be reserved for industry. If necessary additional industrial land might be provided adjacent to the area presently zoned industrial between Highway No. 8 and the C.N.R. tracks. It would still be expected in this plan that a major industrial area might develop on the east side of the Welland Canal





# LEGEND

- NEIGHBOURHOOD RESIDENTIAL (URBAN SERVICES)
- MAJOR COMMERCIAL AREAS
- INDUSTRIAL AREAS
- MAJOR INSTITUTIONS
- OPEN SPACE USES
- RURAL & RURAL RESIDENTIAL



BASE MAP USED

- EXISTING RAIL
- EXISTING ROAD
- PROPOSED ROAD
- STUDY AREA BOUNDARY



ST. CATHARINES AREA TRANSITION STUDY

## INITIAL LAND USE PLAN 'A'

Prepared by: BENTLEY & BROS.  
 Consultants: Civil & Land Planning  
 1000 Highway 10, St. Catharines, Ont. L2R 6K1  
 1975  
 1000 Highway 10, St. Catharines, Ont. L2R 6K1  
 1975



somewhere north of the Queen Elizabeth Way. Such an arrangement of industry, particularly heavy or obnoxious industry, on the east side, and major residential development on the west side would provide for the optimum separation of the two to their common advantage. People wishing to live closer to their work might be accommodated in the areas just west of the canal where there is ample residential land available.

#### 7. ALTERNATIVE LAND USE PLAN 'B' (PLATE 2)

The proposed additional uninterrupted crossing of the Welland Canal will improve the accessibility of the east side and the possibilities of extensive development there must be entertained. While the Port Weller Sewage Treatment Plant will need to be extended for the city itself its eventual enlargement to accommodate extensive development east of the Canal appears doubtful. Rather a new plant must be considered further east on Lake Ontario. Unless development first occurs adjacent to the Lake it will be necessary to construct a Trunk sewer south from the plant through vacant land to the area adjacent to the tunnel where initial development pressure is more likely, this would probably prove expensive.

In relation to the Central Business District, this area is the more remote of the three and lacks the direct access via an expressway that may be provided in the other two plans. For this reason we feel it would have relatively little stimulation for the downtown area. On the contrary, the







# LEGEND

NEIGHBOURHOOD RESIDENTIAL (URBAN SERVICES)

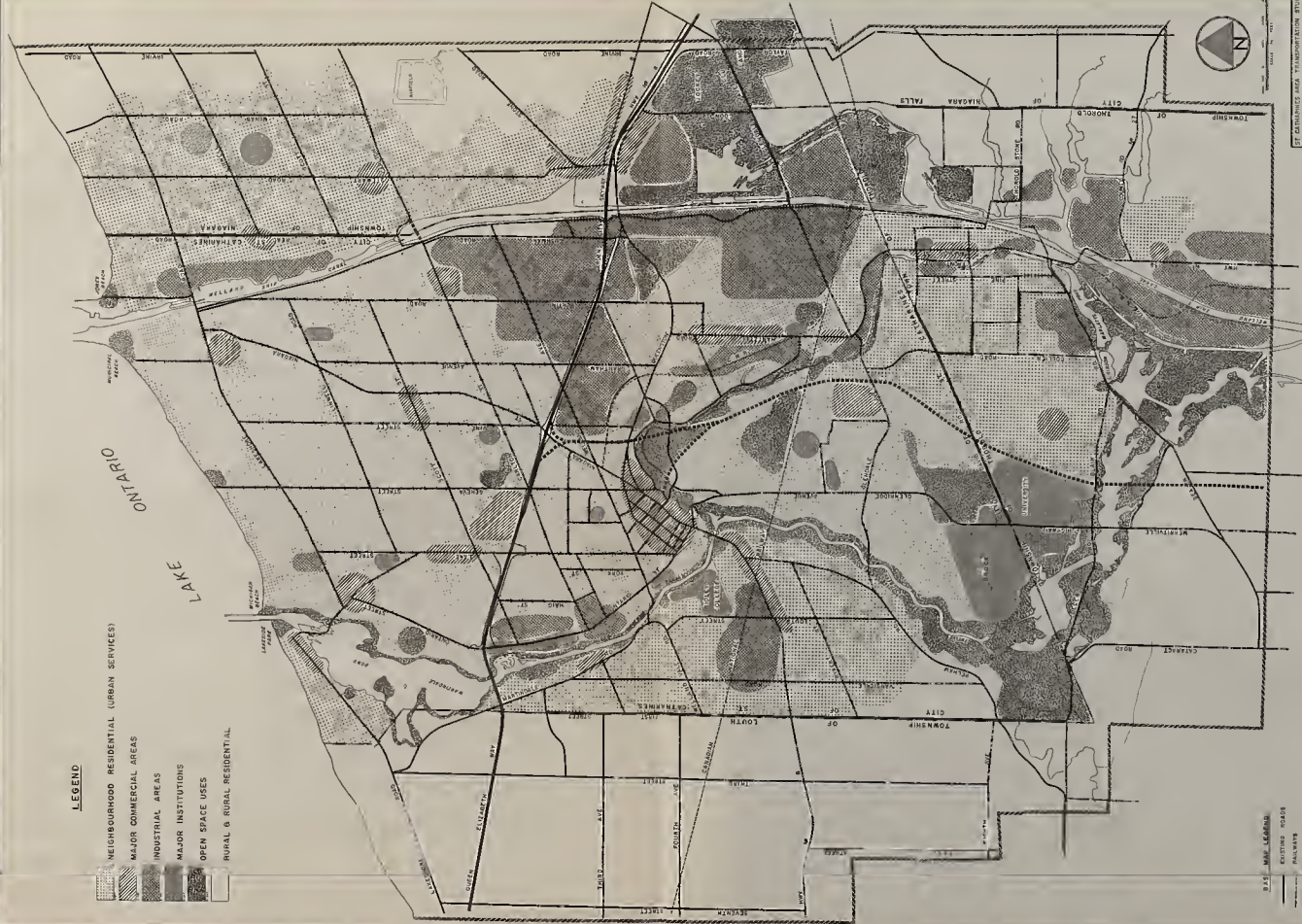
MAJOR COMMERCIAL AREAS

INDUSTRIAL AREAS

MAJOR INSTITUTIONS

OPEN SPACE USES

RURAL & RURAL RESIDENTIAL



DATE: 1971

BY: [illegible]

FOR: [illegible]

SCALE: 1:50,000

PROJECT: [illegible]

REVISION: [illegible]

APPENDIX: [illegible]

FIGURE: [illegible]

TABLE: [illegible]

INDEX: [illegible]

ST. LAWRENCE AREA TRANSPORTATION STUDY

ALTERNATIVE LAND USE

PLAN 'B'

PLANNING SERVICES LIMITED & BROS.

1000 SHEPPARD AVENUE EAST, SUITE 100, SCARBOROUGH, ONTARIO M1B 3Y4

DATE: 1971

PROJECT: [illegible]

FIGURE: [illegible]

TABLE: [illegible]

INDEX: [illegible]



tendency would be for a new substantial shopping centre to develop on the east side of the Canal to serve development there.

The alternative route for Highway 406 to meet the Queen Elizabeth Way at the Niagara Street interchange would seem warranted in this plan in order to place this facility as close as possible to Carlton Street and the tunnel crossing. In this way the maximum convenience could be gained for the area east of the canal. While the possibilities for heavy industry remain with this plan the close proximity of residential development might lead to conflicts. Such industry might well be obnoxious and with a prevailing westerly wind would render the area to the east of it somewhat unpleasant for living. Moreover the Niagara District Airport may be counted as an asset for the attracting of industry to this locality but extensive residential development might tend to limit its expansion. One last point, a considerable investment in separate storm sewers would be necessary for this area where natural drainage is poor.

#### 8. ALTERNATIVE LAND USE PLAN 'C' (PLATE 3)

Highway 406 to Welland, Brock University and the tendency found in the Community Attitude Study for people to prefer South St. Catharines for residence show that major growth southwards must be considered. The area as far as Lake Gibson will be completely developed well before the end of the century and probably before 1985. Pressures for urbanization beyond will almost certainly follow.

25/8/64.





Considerable problems are involved in providing sewers south of Lake Gibson. The capacity of neither the trunk sewer to Port Weller nor that to Port Dalhousie will be great enough to permit their extension to this area; to reach either treatment plant a new trunk would be necessary for a considerable distance. Alternatively a new treatment plant would be necessary. While this might be feasible sometime in the future, it would likely prove expensive in relation to the benefit gained. Of the three possibilities this one would appear to have an intermediate effect on the present pattern and on the Central Business District. Some stimulus would be gained through ease of access via Highway 406 but for retail trade this probably would not be great since there would be comparable access to the Peninsula Shopping Centre. However, the stimulus for the service function of the Central Business District would likely be significant. Other considerations are the relative isolation from the present city of growth beyond Lake Gibson and the fact there is a detectable difference in climate above and below the escarpment.





# LEGEND

NEIGHBOURHOOD RESIDENTIAL (URBAN SERVICES)

MAJOR COMMERCIAL AREAS

INDUSTRIAL AREAS

MAJOR INSTITUTIONS

OPEN SPACE USES

RURAL & RURAL RESIDENTIAL

BASE MAP LEGEND

COASTLINE 1955

MAJOR HIGHWAYS

STREET 1:60,000

ONTARIO

LAKE

ALTERNATIVE LAND USE  
PLAN 'C'

PLANNING REGION: BRANTFORD & AREA  
DATE: 1974  
BY: [illegible]  
FOR: [illegible]

